

## ABSTRACT

A receiver is provided that can shorten the time during which initial synchronization is established. When the frequency of an output signal from the PLL 12 is set to the receiving channel corresponding to the transmission channel for a transmission signal, the time-constant switching circuit 17 changes the time constant of the loop filter 14 to a low rate mode. Meanwhile, the output signal frequency from the PLL is swept between the highest frequency and the lowest frequency signal of a frequency channel. Thus, a receiving channel corresponding to the transmission channel is estimated by signals received during the sweeping period so that the initial synchronization is established based on the estimation result. Receiving-channel estimation, to which adverse effects due to multi-path fading are reduced, can be reliably performed by selecting each of plural receiving antennas in time-divisional mode and synthesizing envelopes of received signals from respective antennas.